

What is claimed is:

1. A light emitting apparatus comprising:

at least two light emitting elements with different chromaticities; and

5 a light emitting element controller that controls light emitted from the light emitting apparatus so as to be a desired chromaticity, wherein

the light emitting element controller controls the light emitting elements based on a predetermined function of light emitting element temperature variation.

10 2. The light emitting apparatus according to claim 1, wherein the light emitting element controller controls drive currents and/or drive voltages of the light emitting elements based on a predetermined function of light emitting element temperature variation.

15 3. A light emitting apparatus comprising:

at least two light emitting elements with different chromaticities;

a light emitting element controller that controls light emitted from the light emitting apparatus so as to be a desired chromaticity; and

20 storage that previously stores drive current values and/or drive voltage values for a plurality of light emitting element temperatures for controlling the light emitted from the light emitting apparatus so as to be the desired chromaticity, wherein

the light emitting element controller controls drive currents and/or drive voltages of the light emitting elements based on the drive current values and/or drive voltage values corresponding to a given temperature stored in the storage.

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4. A light emitting apparatus comprising:

at least two light emitting elements with different chromaticities;

a light emitting element controller that controls light emitted from the light emitting apparatus so as to be a desired chromaticity; and

30 a temperature detector, wherein

the light emitting element controller controls the light emitting elements based on a signal from the temperature detector and a predetermined function of light emitting element temperature variation.

5 5. A light emitting apparatus comprising:

at least two light emitting elements with different chromaticities;

a light emitting element controller that controls light emitted from the light emitting apparatus so as to be a desired chromaticity;

a temperature detector; and

10 a drive time detector, wherein

the light emitting element controller controls the light emitting elements based on signals from the temperature detector and the drive time detector, and a predetermined function of light emitting element temperature variation and drive time.

15 6. A light emitting apparatus comprising:

at least two light emitting elements with different chromaticities;

a light emitting element controller that controls light emitted from the light emitting apparatus so as to be a desired chromaticity; and

a temperature setter, wherein

20 the light emitting element controller controls the light emitting elements based on a value set in the temperature setter and a predetermined function of light emitting element temperature variation.

7. The light emitting apparatus according to any one of claim 1-6, wherein the light  
25 emitting element controller controls light emitted from the light emitting apparatus so as to be a desired chromaticity that belongs to white light.

8. The light emitting apparatus according to any one of claim 1-7, wherein the light emitting elements are light emitting diodes (LEDs).

9. LED lighting comprising:

LEDs with three different chromaticities of red, blue and green LEDs;

an LED controller that controls light emitted from the LED lighting so as to be a desired chromaticity;

5           the LED controller controls drive currents and/or drive voltages of the LEDs based on a predetermined function of LED temperature variation and thus controls the light emitted from the LED lighting so as to be white light, wherein

the LED controller drives one LED with any one of the chromaticities at a constant current.

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10. The LED lighting according to claim 9, wherein the red LED is driven at a constant current.

11. The LED lighting according to claim 9 or 10, wherein the predetermined function  
15 of the temperature variation represents that the drive current is a linear function of the temperature.

12. LED lighting comprising:

LEDs with three different chromaticities of red, blue and green LEDs; and

20           an LED controller that controls light emitted from the LED lighting so as to be a desired chromaticity and a desired luminance, wherein

the LED controller controls pulse drive periods of drive currents and/or drive voltages of the LEDs based on a predetermined function of LED temperature variation and thus controls the light emitted from the LED lighting so as to be white  
25 light with the desired luminance.

13. LED lighting comprising:

LEDs with four different chromaticities of red, blue and green LEDs, and a white LED that can emit white light and is composed of a semiconductor light emitting  
30 element capable of emitting ultraviolet rays or visible light and a phosphor emitting

luminescent radiation caused by excitation of light emitted from the semiconductor light emitting element;

an LED controller that controls light emitted from the LED lighting so as to be a desired color rendering level;

5 a temperature setter and/or a temperature detector; and  
a drive time detector, wherein

the LED controller controls drive currents and/or drive voltages of the LEDs based on a detected value from the temperature detector, a signal from the drive time detector and a predetermined function of LED temperature variation and drive time  
10 and thus controls the light emitted from the LED lighting so as to be the desired color rendering level as white light, wherein

the LED controller drives one LED with any one of the chromaticities at a constant current.

15 14. An LED light emitting apparatus comprising:

LEDs of at least red, blue and green colors; and

a control portion having

a non-volatile memory capable of receiving/providing information for chromaticity maintenance for temperature of the LED light emitting apparatus;

20 a control circuit that can read the information on respective colors and write control information into red, blue and green color setting registers at power startup,

a calculation circuit that performs calculation based on signals from the respective color setting registers and a temperature information signal that is received from a temperature measurement element through a temperature information

25 processing portion,

digital-analog converters for respective colors that converts output from the calculation circuit, and

current sources for respective colors that provide drive currents for the red, blue and green LEDs, wherein

30 the information for chromaticity maintenance for temperature that is

received/provided by/from the non-volatile memory contains predetermined functions; a temperature coefficient, and reference chromaticity and luminance data; or drive current values for temperatures.

5     15. The LED light emitting apparatus according to claim 14, wherein the predetermined function for the red LED represents that a control current value is constant for temperature, and the predetermined functions for green and blue LEDs represent that control current values are linear functions of temperature.

10    16. An LED light emitting apparatus comprising:

LEDs of at least red, blue and green colors; and

a control portion having

a non-volatile memory capable of receiving/providing information for chromaticity and luminance maintenance for temperature of the LED light emitting  
15    apparatus; a control circuit that can read the information on respective colors and write control information into red, blue and green color setting registers at power startup;

a calculation circuit that performs calculation based on signals from the respective color setting registers and a temperature information signal that is received  
20    from a temperature measurement element through a temperature information processing portion,

digital-analog converters for respective colors that converts output from the calculation circuit, and

current sources for respective colors that provide drive currents for the red,  
25    blue and green LEDs, wherein

the information for chromaticity and luminance maintenance for temperature that is received/provided by/from the non-volatile memory contains predetermined functions; a temperature coefficient, and reference chromaticity and luminance data; or drive current values for temperatures.

17. The LED light emitting apparatus according to claim 16, wherein the predetermined functions for the red, green and blue LEDs represents that control current values are cubic functions of temperature.

5 18. An LED light emitting apparatus comprising:

LEDs of red, blue and green colors;

current sources for the LEDs of respective colors that are electrically connected to the LEDs;

digital-analog converters for respective colors that are electrically connected

10 to the current sources;

setting registers for the LEDs of respective colors that are electrically connected to the digital-analog converters;

a control circuit that is electrically connected to the setting registers; and

a non-volatile memory that is electrically connected to the control circuit,

15 wherein

the control circuit includes electrical input wire connection of temperature information through a temperature information processing portion from a temperature sensing element of the LEDs, wherein

the control circuit calculates control current values for LEDs of respective

20 colors based on current setting data for temperature or predetermined functions stored in the non-volatile memory, and the temperature information that is provided therein, and thus performs light emission control drive of the LEDs based on the values that are provided into the setting registers.

25 19. The LED light emitting apparatus according to any one of claim 14-18, wherein the red LED is composed of a AlInGaP group semiconductor material, and the blue and green LEDs are composed of a nitride group semiconductor material.

20. A control method of a light emitting apparatus that comprises at least two light  
30 emitting elements with different chromaticities, and a light emitting element controller

that controls light emitted from the light emitting apparatus so as to be a desired chromaticity, wherein the light emitting element controller controls the light emitting elements based on a predetermined function of light emitting element temperature variation.